

THE

# BOSTON MEDICAL AND SURGICAL JOURNAL.

NEW SERIES.]

THURSDAY, OCTOBER 20, 1870.

[VOL. VI.—No. 16.]

## Original Communications.

### DEFECTS OF OCULAR REFRACTION, ACCOMMODATION AND CONVERGENCE, AND THEIR TREATMENT BY SPECTACLES AND OTHERWISE.

By G. HAY, M.D., Boston.

#### LECTURE I.—*Anomalies of Binocular Fixation. Refraction of Light by the Eye and by Lenses.*

The study of the optical defects of the eye is in some respects unattractive, as it involves the consideration of certain abstract matters, and especially of geometrical optics. Yet it is also practically important from a medical point of view, not only because such defects admit of being recognized and relieved, but also because it is important to distinguish them from other affections of the eye; for instance, a man past middle life complains of no longer being able to see well at any distance, and fears cataract or even amaurosis. Now it is possible he may be entirely relieved simply by the use of convex glasses. Or another patient has defective vision, and complains of never having been able to find suitable glasses, and has similar fears of amaurosis; but we find that a cylindrical lens will double his vision. It is therefore essential to be able to distinguish between the different affections. The number of cases of optical defects is considerable. Out of 6345 eye-patients at the Infirmary, there were 394 cases of anomalies of refraction and accommodation; that is, about one in sixteen.

It has been found that the optical adjustment of the eye is intimately related with the mutual convergence of the two optic axes. It is therefore necessary to consider these two subjects in connection with each other.

The process of vision consists of three principal parts: the formation of distinct optical impressions on the two retinæ; the transmission of these impressions along the optic nerves to the brain; and, finally, the

mental elaboration of these transmitted impressions into seeing.

The subject to which I shall ask your attention in the following lectures concerns principally the first of these three parts of vision; the formation of distinct optical impressions on the two retinæ. This part of vision might be denoted by the expression *binocular fixation*, if we may include under the word fixation not only right direction of the optic axis, but also correct optical adjustment. In the present lecture I propose to point out the principal anomalies to which binocular fixation is liable, and their remedies, and to consider in a general way some of the properties of these anomalies, and of their remedies; and certain matters connected with them; we shall thus come to examine some of the properties of the refraction of light when passing through a series of surfaces, as in the eye; also through glass lenses.

As the type of normal binocular fixation may be taken the case of an object directly in front of the observer. In looking at such an object, each eye is normally directed to the object, and optically adjusted for the distance of the object.

Let us see in what way deviations from the normal conditions may occur. In the first place, it is obvious it might be difficult or impossible to maintain the proper directions. The internal recti muscles may be too weak in comparison with the external recti, or vice versa. Again, the eye may not be able to refract the rays from a point of the object exactly to a focus on the retina.

Suppose these anomalies; what then? To answer this we must look more closely at the process of vision. In vision the pencil of rays from a point of the object is refracted in passing through the media of the eye to a focus on the retina. This focusing must be exact, otherwise the impression received is not distinct. Again, the eye must be directed so that the macula lutea, the most sensitive part of the retina, may come to receive the focal impression.

In binocular vision there is also another motive influencing the direction of the axes.

Suppose one eye to be so directed that the image of the object falls on the macula lutea, for the reason that vision is there most acute; there will, in addition to this, be another reason why the second eye should present its macula to the image of the object; namely, that if it did not, there would be double vision, which is confusing and instinctively avoided.

This relation of the maculae to each other is only one part of the law of so-called identical points. This law influences not merely the direction of the optic axis, as just indicated, but also the situation of the eye-ball as regards rotation around this axis; you can easily see that for any given direction of the axis there is conceivable any number of situations of a point on the surface of the eye-ball. The study of this law is practically important in connection with the subject of the paralyses of the external ocular muscles; because these paralyses prevent the eye from being properly placed, and in consequence of this, according to the law of so-called identical points, double vision ensues; the kind of double vision is different in different cases and more or less characteristic of the particular muscle or muscles-paralyzed.

What are the means of remedying these two kinds of defects; those of refraction and of direction? With regard to the first, the focus may be in front of or behind the retina. An appropriate glass lens with spherical surfaces placed before the eye will then bring the focus to the retina.

It may be that the rays are so asymmetrically refracted that they cannot be considered as tending to any point-focus at all; their focus may be considered as consisting of two straight lines at different distances behind the cornea and at right angles to each other, and each perpendicular to the optic axis. In such case these two focal lines are to be brought together, and the rays thereby made to pass through their point of meeting; this is done by an appropriate cylindrical glass. Then, in addition, a spherical glass may be needed to bring the focus to the retina.

Thus the principal remedies for improper focusing are lenses, spherical and cylindrical.

As to wrong direction of the optic axis, three principal kinds are to be noticed.

1st. The optic axes may be able to attain the required convergence for a short time, but not to maintain it sufficiently long. This defect is called insufficiency of the respective muscles.

2d. Either visual axis may be directed to

the object, the other deviating; the deviation measuring nearly the same amount, whichever eye fixes the object; it may, however, vary with the distance of the object. This is the ordinary strabismus, or concomitant strabismus.

3d. Paralytic deviations, in which the deviation may vary according as one or the other eye fixes the object, and also for different positions of the object.

The last require special study. It is chiefly the first of the three kinds which comes within the scope of the present lectures.

For deviations of direction, or tendency to deviation, there are three special remedies.

The first, which is especially applicable to a mere tendency to deviation, consists in influencing the direction of the axes by calling on the eyes for more or less effort of accommodation; we shall see later that the effort to accommodate is accompanied by a corresponding effort to converge.

The second remedy is the cutting of the tendon of one of the recti muscles at its insertion into the sclerotic, in consequence of which the eye turns a certain amount towards the other side from that on which the tendon was cut.

The other remedy consists in using a glass prism, whereby, although the visual axis deviates from the object, the image of the object is brought to the macula lutea. Normally the eye would itself turn and bring its macula lutea to the image.

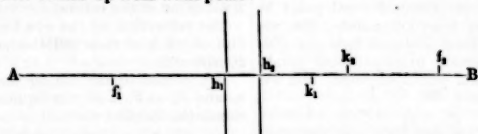
Other remedies would be applicable in the case of insufficiency of the muscles from general debility.

We thus have presented to us for consideration, the following subjects: The refraction of light through the media of the eye, the action of lenses spherical and cylindrical, the action of prisms, and the relation of the accommodation to convergence. The two last will be considered in the next lecture.

The first of these, the refraction of light in passing through the media of the eye, must be considered from an optical point of view, as a case of the refraction of light by several spherical surfaces separating media of different densities, and then from a physiological point of view, from which the whole refractive power of the eye is looked upon as divided into two parts; the one relatively constant, and called, by Donders, the *refraction* of the eye, the other variable, and dependent on a change in the eye, and serving to adjust the eye for different distances, and called the *accommodation*.

In considering the refraction of light in passing through several spherical surfaces, separating media of different densities, the centres of the surfaces are supposed to lie in one straight line, called the axis, and the rays to be near to and only slightly inclined to the axis. Call  $n_1$  the index of refraction of the medium in front of the first surface, and  $n_s$  that of the medium behind the last surface. Suppose the rays to pass from the first medium through and arrived in the last. Two questions present themselves; first: if the rays in the first medium before refraction diverge from a certain point, to what point will they converge after passing through all the surfaces? second: given the size of an object in the first medium, what will be the size of its image formed by the refracting system?

The question comes up from what point



The light is supposed passing from A to B. The position of the surfaces which separate the different media and at which the rays are refracted is not at all indicated in the diagram, but only the cardinal points of the system; these may be different for different systems. There are six of them. Two focal points,  $f_1$  and  $f_2$ ; two principal points,  $h_1$  and  $h_2$ ; and two nodal points,  $k_1$  and  $k_2$ .

The significance of the principal points and of the nodal points, in the case of  $n_1$  being different from  $n_s$ , as in the eye, where  $n_1$  is the index of refraction of the air and  $n_s$  that of the vitreous humor, may be explained as follows: Suppose at  $h_1$  a spherical surface with its centre at  $k_1$ . Now the position of any ray after refraction by the whole system is such as would be obtained if the ray were simply refracted at the one supposed surface with the first medium of the system in front of it, and the last medium behind it, and if in addition thereto the ray thus refracted were pushed parallel to itself along the axis in the direction from A to B and by the distance  $h_1h_2$  equal to  $k_1k_2$ .

In the case of  $n_1$  being equal to  $n_s$ , as in the single lens or a system of lenses in air (as in the telescope),  $k_1$  coincides with  $h_1$  and  $k_2$  with  $h_2$ , and an infinitely thin lens of a certain convexity takes the place of the

to measure the distances of image and of object.

If the system consisted of a single thin lens, we might neglect the thickness of the lens, and refer the positions of the object and image to that of the lens.

But in a more complicated system, consisting of more than three successive media or more than two surfaces at which the rays are refracted, for instance, in the eye, where we have at least three surfaces, the anterior surface of the cornea, the anterior and posterior surface of the crystalline lens, and four corresponding media, air, aqueous humor, lens substance and vitreous humor, in such case, certain points of reference have been adopted, called cardinal points.

Let us look at the diagram from Helmholtz.

above supposed surface. (See Fick, Med. Physik, 1st edit. p. 252.)

Thus (when  $n_1$  is different from  $n_s$ ) the principal points and nodal points, together with the index of refraction of the first medium and that of the last medium, indicate the resultant refractive action of the whole system. When  $n_1 = n_s$ , we should wish to know also the position of the focal points.

It will be seen from this resultant that the nodal points are such that a ray in the first medium, directed before refraction to the first nodal point, will after refraction be directed to the second nodal point, and will still be parallel to the direction which it had before refraction. This property is sufficiently important to justify the selection of these points as cardinal points.

It will also be seen from this that the size of the image is to that of the object as the distance of the image from the second nodal point is to that of the object from the first nodal point.

A plane passing through a principal point and at right angles to the axis is called a principal plane. There are two such, as there are two principal points. We see from the preceding explanation as to the resultant action of the whole system, a property of these two planes. For instance: a ray which in the first medium before refraction is directed to a point H, of

the first principal plane, at a given distance and direction from the axis and near to the axis, will in the last medium after refraction by the system be directed to a point  $H_2$  of the second principal plane at the same distance and direction from the axis; or, in other words, the two points  $H_1$  and  $H_2$  are in a straight line parallel to the axis.

The focal points are analogous to those of a single lens. Rays parallel in the first medium before refraction pass through the second principal focus after refraction by the system. Rays which in the first medium before refraction pass through or are directed to the first principal focus are parallel in the last medium after refraction.

But the focal distances are measured from the respective principal points. The first principal focal distance  $F_1$  is the distance of the first principal focal point in front of the first principal point. The second principal focal distance  $F_2$  is the distance of the second principal focal point, behind the second principal point; and we have the relation

$$\frac{F_1}{F_2} = \frac{n_1}{n_2}$$

that is, these two principal focal distances  $F_1$  and  $F_2$ , which are measured each from the corresponding principal point, are equal in the case of a single lens or system of lenses, in which cases  $n_1$  is equal to  $n_2$ ; but they are not equal in the case of the eye, where  $n_1$  is not equal to  $n_2$ .

If we measure the distances of the principal focal points, not from the corresponding principal points, but from the corresponding nodal points, and call  $f_1$ ,  $k_1 = G_1$ , and  $f_2$ ,  $k_2 = G_2$ , we shall have

$$\begin{aligned} G_1 &= F_1 \\ G_2 &= F_2 \end{aligned}$$

This very meagre explanation will enable us to understand the formula for the relative position of image and object,

$$\frac{F_1}{p} + \frac{F_2}{q} = 1, \quad [1]$$

in which  $p$  represents the distance of the object in front of the first principal point, and  $q$  the distance of its image behind the second principal point. The values of  $p$  and  $q$  admit of being geometrically constructed, either with assistance of the cardinal points or from the formula.

The relation of the relative distance of the image to that of the object might be otherwise expressed, either by a formula in which the distances would be measured

from the respective nodal points, or by another in which the distances would be measured from the focal points.

It ought also to be mentioned that Helmholtz has given formulae for combining two refractive systems into one; for finding the cardinal points of the combined system if we know those of each of the separate systems; as, for instance, to consider the combination of a glass lens and the eye as a compound system, the cardinal points of which it is desired to find.

In the normal eye, accommodated for distance, the principal points are, according to Helmholtz, very near each other, and about in the middle of the anterior chamber; the nodal points, consequently very near to each other, are very near to the posterior surface of the crystalline lens. The second principal focal point is just in front of or at the retina.

The refraction of the eye from a physiological point of view will be subsequently considered.

In the case of the single lens,  $n_1$  equals  $n_2$ , and  $F_1 = F_2$ , and the equation [1] becomes the familiar one

$$\frac{1}{p} + \frac{1}{q} = \frac{1}{F} \quad [2]$$

The distances  $p$  and  $q$  in this formula are to be counted from the corresponding nodal points, which in bi-convex and bi-concave lenses are within the lens. If in such lenses the radii of the two surfaces are equal, the first nodal point is about one third the thickness of the lens from the anterior surface, and the second nodal point the same distance in front of the second surface, both being within the lens. If the lens is thin we get a sufficiently correct result by neglecting the thickness and measuring the distances from the middle of the lens, and it matters not which surface of an equi-bi-convex or equi-bi-concave lens is turned towards the eye.

In using one of these lenses, it must be placed very nearly perpendicular to the direction of the object; otherwise a homocentric incident pencil becomes astigmatic after refraction by it, and the image is indistinct and not symmetrical with the object. This is also the case to a certain degree if we look through the lateral part of the lens. It was stated above that the formulae hold for rays which are near the axis of the system and make only small angles with it.

The formula above [2] can be used in two ways; either to find the lens which will bend the rays in the desired way, or to



find in what way the given lens will bend the rays from the given point. In using the formula the  $F$  is a positive number, say 6 (inches), for convex lenses; and a negative number, say minus 6 (inches), for concave lenses. The  $p$  is the distance in front of the lens of the focus of incident rays. If, however, the incident pencil is convergent towards the lens, that is, has its virtual focus behind the lens, then the distance  $p$  is to be taken as negative in the formula.

Again,  $q$  is the distance behind the lens of the focus of the refracted pencil. If, however, it should be in front of the lens a virtual focus, as is often the case, then it is to be taken as negative in the formula. This is usually the case in Donders's formula for accommodation.

Convex lenses make the rays less diverging or more converging. Concave lenses make the rays more diverging or less converging.

As the refractive power of lenses is greater as the focal distance is less, it may be represented by the fraction, unity divided by the focal distance. Thus the refractive power of a lens of 6 inches focal distance may be represented by the fraction  $\frac{1}{6}$ . In the formulae with reference to the action of lenses, the focal distance often enters as the denominator of a fraction whose numerator is unity.

The focal distance of a spherical glass lens, with surfaces of equal curvature, is nearly, though not quite, equal to the radius of the spherical surface.

The formula for the thin bi-convex or bi-concave lens which shall be equivalent to the sum of two such lenses placed close together, either both bi-convex or both bi-concave, or one of each, is:—

$$\frac{1}{m} + \frac{1}{n} = \frac{1}{L} \quad [3]$$

in which  $L$  is the focal distance of the lens equivalent to the combination of the two whose focal distances are respectively  $m$  and  $n$ .

There are other spherical lenses besides bi-convex and bi-concave. If one surface is convex and the other concave, as in periscopic glasses, then one or both nodal points lie outside the lens, and the effect of the lens will be different, according as one or the other surface is turned towards the eye.

The advantage of the periscopic glasses is, that with the radii of the two surfaces in a certain ratio to each other, and with the right surface turned towards the object, there is less spherical aberration, and consequently less indistinctness in looking through the lateral parts of the glasses. If

the wrong side is turned towards the object the spherical aberration is however increased. Strictly speaking, one form of the lens would be free from spherical aberration only for one distance of the object; therefore certain forms have been selected as being on the whole the best. If a plano-convex lens is used for near objects its plane surface should be turned towards the object.

Another point often mentioned as belonging to a spherical lens is the *optic centre*; this is a point of the axis such that any ray in the substance of the lens and directed to this point, or passing through it, has a direction after refraction by the lens parallel to what it had before refraction. The *optic centre* is to be distinguished from the *nodal points*.

#### DEATH OF A DIABETIC PATIENT, WITH SOME PECULIAR ACCOMPANIMENTS.

By CHARLES E. BUCKINGHAM, M.D., BOSTON.

I was called on the 5th of October, to see Miss B. It was then about 6½ o'clock in the evening. She had arrived about two hours previously from Canton, where she had been teaching school for a few weeks. She was sitting in bed, with the legs extended upon the thighs, breathing stertorously, very much flushed, and throwing her arms about. Except that she had contracted pupils, her appearance was very much like that which is seen in stramonium poisoning. Shading the eyes did not produce dilatation. The only reply I could get from her was "Yes, sir." The pulse was 120, not strong; the respiration was 22 in the minute. Neither percussion nor auscultation gave any abnormal sound, except the stertor spoken of, either about heart or lungs. At the time of her arrival, she was brought into the house by the hack driver, who said that he thought "she had been taking chloroform, as she smelled like it." Nothing of the sort was noticed by me.

She was a small, but well developed young lady, with no sign of emaciation, and none of the sallowness attendant upon diabetes, though it was said that she had been suffering from that disease for some two years. There was about a pint and a half of very pale, limpid urine shown to me as hers, and, on examining it, I obtained the following result:

*Density* 1028. *Reaction* acid. *Chlorides* diminished. *Albumen* a trace. *Sugar* abundant.

At 9.20, P.M., the pulse was 114, respira-

tion 22. Dyspnoea apparently less. Perfectly quiet—seems unconscious.

Oct. 6th, 8 $\frac{1}{2}$  A.M.—Face very much flushed. Hands and feet very warm. Perfectly insensible. No pulse in either radial artery, but in brachial about midway it is 120. Respiration 19. Slight double divergent strabismus. Pupils contracted. As late as 11 $\frac{1}{2}$  P.M., is said to have answered "yes." Passed urine involuntarily during night.

She died at about one o'clock, P.M.

It having been reported that she had been assaulted, on the morning before death, and that she had complained of being struck upon the head with stones, a partial examination of the body was made on the 8th of October, by order of the coroner. It was impossible to do more than examine the head, in consequence of the lateness of the hour, and the want of light. The examination was made by Dr. Swan, in the entry of the town hall, at Hanover, Mass.; Dr. Kean, of Washington, D. C., and myself, being present. There was not the slightest evidence of contusion, nor any effusion of blood either within or upon the skull.

who had had three previous good labors. While near her full period, on the evening of March 7th, she had a tremendous gush of blood from the womb. Dr. James F. Harlow was called, and found the os dilatable and soft, and the placenta presenting. Dr. Minot was called in consultation about 2, A.M. The pulse was 88, condition of patient fair. The placenta was centrally implanted, and its edge could not be felt. It was decided to attempt version by the foot; and if that were impracticable, to peel off the whole placenta. The latter operation became necessary; it was executed rapidly and successfully by Dr. Harlow, who afterwards performed version. The placenta had been off at least twenty minutes before the head was born. The child was still when born, but was resuscitated by Marshall Hall's method.

Dr. Reynolds inquired if the members thought it important to secure both feet in turning.

Dr. Putnam only gets one foot. Thinks that when the placenta is as central as in the case cited, there is likely to be less hæmorrhage.

Dr. Reynolds related the case of a young woman, two months pregnant, who suffered from palpitations and short breath, slept poorly, had a pale, leaden complexion, and a general condition of marked anæmia. He ordered muriate of iron and bromide of potash, and she miscarried twenty-five days later. He desired to know if any causal relation could be supposed to exist between the use of iron and abortion. He had been informed upon good authority that professed abortionists use iron in accomplishing their purpose.

Dr. Minot said he thought that iron was only dangerous when used in the form of a wire.

Dr. Putnam had never seen reason for believing that it did harm in pregnancy.

Dr. Abbot considered it quite safe.

The President had heard Dr. Jacob Bigelow say, *à propos* of the fluid extract of cotton-root, that in all his experience he had never found reason to think that any medicine, unaided, had the power to produce abortion, except where the tendency to abort already existed.

Dr. Minot held the same belief. Cotton-root was not at all reliable in the form of extract, nor at all certain as a specific.

Dr. Lyman thought otherwise, and instanced the case of a patient of his. Tansy tea, Hooper's pills, which are largely aloetic, with some scammony, and Clarke's female pills, are popular abortives.

## Reports of Medical Societies.

OBSTETRICAL SOCIETY OF BOSTON. SECRETARY,  
DAVID F. LINCOLN, M.D.

MARCH 12, 1870.—The Society met at the house of Dr. Ayer, at 7 $\frac{1}{2}$  P.M.; the President, Dr. Buckingham, in the chair.

Dr. Minot reported two cases:—

CASE I.—*Secretion of Milk restored by Electricity.* A married lady had had two children, and in each case the flow of milk was abundant. Had typhoid fever in August, 1869. Confined January 8th, 1870, for the third time. Milk appeared in the breasts on the third day, but on the fourth it diminished, and for several days it was almost wholly absent. On the evening of the 13th, the interrupted current from a Farmer's battery was applied for about 2 $\frac{1}{2}$  minutes to one side of the breast, and then for the same length of time to the otherside, the poles being covered with moistened sponge. Little pain and but slight redness accompanied the operation. The milk had increased very decidedly on the next morning, and after five days' use of the current, with a daily application, it was quite abundant. Reference was made to Dr. Barker's paper upon this subject in the *New York Medical Journal*.

CASE II.—*Placenta Prævia.*—A negress,

Dr. Ayer mentioned the case of a young lady, a patient, who danced several nights in succession, with the effect of obtaining the desired abortion. He thought that this form of exercise was very likely to bring on abortion.

Dr. Reynolds had found chlorate of potassa, in half-drachm doses three times daily, as recommended by Robert Barnes, of service where several children have been successively born dead. It is said to increase the arterialization of the blood.

Dr. Putnam had lately found this remedy of use. His dose had been one scruple, and had been continued for two or three months consecutively, apparently with benefit.

Dr. Read gave Sir James Y. Simpson the credit of first proposing this treatment.

Dr. Reynolds cited the case of a woman, the only survivor of a numerous phthisical family, who had had seven stillborn children, without any suspicion of venereal disease; the eighth was born well, and is now well. The mother took tinct. ferri murialis during the last two months of pregnancy.

Dr. Read reported a case. Woman, æt. 23 or 24. Married last June. Menses appeared regularly until January; ceased on the 10th of that month. January 20th, she began to flow; was treated for miscarriage. When he saw her, three days ago, the flowing was still going on; the os was tight, the cervix hard, and a putrid odor was present. He advised to desist from the administration of drugs. Last night an entire ovum came away, with masses—perhaps of placenta—attached.

Dr. Cotting described "two and a half" cases of his own:—

1. Second child. Repeated hæmorrhages three or four weeks before delivery. Turned directly. Recovery slow.

2. Was about to turn, when the head came down and plugged the orificium uteri, and all went well.

3. When he arrived, the placenta and head were coming into the world; the woman died almost directly.

Dr. Lyman spoke of the occurrence of occasional hæmorrhage during pregnancy, from about the 4th month, in the absence of placenta prævia.

Dr. Wellington spoke of a case where hæmorrhage occurred within a few weeks of labor, but not at all during the labor itself until after the child was born, when great gushes of blood came. Was there a partial detachment of the placenta?

Dr. Putnam asked if there was any bet-

ter remedy than the muriate of iron for purpura caused by hæmorrhage. This particular preparation of iron was objectionable, as it caused temporary discoloration of the teeth.

Dr. Abbot considered purpura and bleeding as equally symptoms of the same dyscrasia. Sulphate of quinia and iron were the best remedies.

Dr. Lyman. Quinine was generally successful in the army, especially in cases caused by malaria.

Dr. Buckingham spoke of the alleged injury to teeth caused by muriate of iron. He advised the teeth to be smeared with butter before the medicine was taken. Only places denuded of enamel suffered.

Doubt was expressed by several gentlemen as to whether the drug really did the harm supposed.

Drs. Ayer, Reynolds and Lyman agreed from personal experience as to the especially evil effect produced upon the teeth by the syrup of iodide of iron in the case of infants and young children.

Dr. Cotting asked the probable source of the discharge of liquid two weeks before labor; sudden, and in considerable quantity.

Dr. Ayer suggested the presence of small sacs between the chorion and amnion, not communicating with the main sac.

Dr. Reynolds believed that the main sac might rupture high up during labor, and the fluid escape between the membranes, as in a dissecting aneurism.

Dr. Buckingham spoke of a case where drainage of a watery fluid commenced two weeks before delivery.

Dr. Lyman mentioned a similar case; labor did not occur for two weeks.

Dr. Reynolds remarked that some women were liable to such an occurrence four weeks before their full time. He inquired regarding the source of slight hæmorrhages occurring at various times during pregnancy.

Dr. Lyman spoke of a case, elsewhere reported, where the woman menstruated only during pregnancy. The last child was born at the age of 56.

Dr. Buckingham, in reply to a question of Dr. Reynolds, said:—I know that after the use of ergot the placenta is often shut into the womb after the labor is concluded, by irregular contraction. And, when great debility is present, you may give ergot and the pains will often cease, to return immediately upon the administration of opium. I always give opium with the ergot. For several years I have seldom given ergot,

except just after the completion of the second stage of labor. Opium is a stimulant, which will often excite contractions, without producing sleep; or, if the patient sleep from the opium, contractions return immediately on waking. I seldom give ether without regretting it, on account of subsequent hæmorrhage. I commonly give a large dose of opium, where simple exhaustion without much bleeding is present, and have never seen excessive sleep resulting from it. I do not refer to cases of irritability. By a large dose I mean  $\mathfrak{zss}$ .-i., or even two and three drachms.

SATURDAY, April 9th, 1870.—The Society met at the house of Dr. Abbot; the President, Dr. Buckingham, in the chair.

Dr. Minot spoke as follows. A young lady, a patient of mine, has had two perfectly normal labors. It is now the beginning of the eighth month in her third pregnancy. On the 3d inst., she drove to church. In the afternoon, she had a large gush of blood from the womb, on straining moderately at stool; I estimated it at one pint. She was put to bed. The cervix was found spongy and soft; the os easily admitted the tip of the finger. On the 5th, she had a discharge as large as the ordinary monthly evacuation, lasting till the 8th. Is it a case of placenta prævia—as I suppose—and what is to be done? I propose to wait. She expects confinement on the first of June. If a great gush of blood comes, ought I to plug, or quickly to deliver?

Dr. Wellington advised to take away the fœtus as quickly as possible, when it is found that it must come.

Drs. Abbot and Lyman saw no present necessity for operation.

Dr. Lyman thought, that in case of another hæmorrhage, it would probably be best to operate immediately; and a Barnes's dilator should be ready.

In case of imminent exhaustion, Dr. Putnam advised artificial removal of the placenta and immediate delivery by forceps—not merely for the sake of the child, but that the mother should be saved any unnecessary fatigue, and the chances of secondary hæmorrhage lessened by contraction of the uterus.

Dr. Buckingham described his last case. The woman supposed herself to be two weeks before her term; but it turned out to be six weeks. He introduced the ordinary rubber plug three times, with some days' interval between. Before using it the last time a clot of blood as large as the fist was voided; after removing the ball the os

was three inches in diameter, and half-covered by the placenta; the membranes were then ruptured and the child was born "instantly."

Dr. Buckingham described a case where the placenta half-covered the os. He punctured, and brought down the leg; then the breech; but there was no diminution of hæmorrhage. The child was taken away, but the woman died in ten minutes. There had been no hæmorrhage previous to the day of labor.

He mentioned a case of purpura, that had lasted some weeks, when a sudden gush from the uterus occurred, and the patient died before she could be delivered.

Dr. Lyman remarked that many women die from their desire to save the child.

Drs. Putnam and Minot said that, judging from their own experience, the operation of stripping off the placenta was not a very difficult one.

Dr. Putnam said the exhaustion of the patient ordinarily made the os flaccid and easy to dilate.

Dr. Buckingham has usually treated the os with a plug till it is two fingers wide, and has then found no difficulty in dilating it with his hand at pleasure.

Dr. Putnam described a case of central attachment. During the night of the 28th, pain in back followed by 4 or 6 oz. coagula. Os uteri high up; no coagula in vagina. 29th. Os widely dilated—placenta projecting into vagina. No hæmorrhage. Fœtal pulse 160. Strong pains came on four hours afterward. The membranes were now ruptured—the child in 2d position was turned, the left hand being passed at one edge of the placenta. No hæmorrhage; child living. Placenta immediately removed without difficulty.

Dr. Abbot spoke of a case previously reported; a lady who had had an abortion without assignable cause, and in a subsequent pregnancy flowed almost every day for three months, beginning with the third month. She was delivered naturally, and at the full term, of twins.

Dr. Read spoke of the great significance of a little draining of a brownish, hardly hæmorrhagic, slightly fetid fluid, before the third month of pregnancy.

Dr. Ayer coincided with Dr. Read.

Dr. Reynolds thought that in early miscarriages, where both pain and flowing are present, the child is hardly ever saved.

Dr. Read showed a fifteen days' ovum. The patient knew the date of conception, and used means to cause abortion.

The Society then adjourned.

# Medical and Surgical Journal.

BOSTON: THURSDAY, OCTOBER 20, 1870.

## YELLOW FEVER IN BOSTON.

WE call attention to the following card from the City Physician:—

OFFICE OF CITY PHYSICIAN, CITY HALL, }  
BOSTON, Oct. 15, 1870.

The public are hereby informed that no alarm need be felt at the report in the morning papers in regard to yellow fever at No. 60 Richmond street. Four negroes, inmates of the above house, have died suddenly with symptoms somewhat similar to that disease, and one more is sick, but likely to recover. No illness of any kind has since occurred among the numerous inmates of said house, all of whom have been removed to Gallop's Island, nor are there any similar cases in any other part of the city. Furthermore, it is well known that frost invariably puts an end to the above-named fever, which, did it exist, could last only a few days.

WILLIAM H. PAGE, M.D.,  
City Physician.

We regret that Dr. Page has failed to say distinctly whether or not, in his judgment, yellow fever, has been present in our city this fall. The letter quoted above we fear is more calculated to excite, than allay the popular anxiety.

In connection with the case we cannot fail to call attention to the fact that the men landed from a whaler, at Provincetown, between the middle and last of August, and the first, as we learn, was not taken sick until September 15th. We may presume the voyage to have added some weeks to a period of incubation already too much protracted. The fact of a "congested brain and the presence of bilious matter" in the stomach we do not suppose to be necessarily pathognomonic of yellow fever.

MR. JOHN T. BLACKMORE.—It is with sincere regret that we announce the retirement of Mr. Blackmore from the important position he has held in the office of the MEDICAL JOURNAL for many years. The state of his health and his increasing years admonish him to give up the more active duties of

life, and he will shortly leave Boston to take up his residence with his son, near Hampton, Va.

Mr. Blackmore has been connected with the JOURNAL for eighteen years. His former life had been singularly varied; his residence during his early manhood in the various countries of Europe and the then distant parts of America, and the peculiar nature of his duties for many years, brought him into contact with people of all classes and of every tongue. During his life he has been a person of varied and careful reading; his accurate memory and his ready perception of the best and most correct writing have been the means of leading him to store his mind with information on all topics of interest and importance. He has devoted himself quite extensively to the classics and the modern languages, and we have frequently had occasion to seek his aid, where our knowledge has been at fault.

It is, however, to the medical profession, and in connection with the MEDICAL JOURNAL, that Mr. Blackmore is best known. Probably no man is more conversant with the personnel of the members of the Massachusetts Medical Society than he. Always at his post, always faithful to duty, very methodical and accurate in what is entrusted to him, ever kind and obliging—his venerable figure cannot fail of being missed by every member of the profession who visits our sanctum, and his well-known hand-writing will no longer appear in connection with the JOURNAL and other publications which are issued from our office. A former Editor truly says:—"He has been of incalculable service to the profession of the city and of the State; and the M.M.S. will, I am sure, greatly miss his deft hand and willing heart in their cause."

On mentioning the retirement of Mr. B. to two members of the profession, we were much gratified at their immediate expressions of kindly feeling and esteem for him. They suggest that the profession manifest its appreciation of his services in some way that will be practically useful to him. They have themselves contributed liberally. The Editors of the JOURNAL heartily coincide in the plan suggested, and will take



charge of such further aid as its patrons and the friends of Mr. Blackmore may place in their hands.

As Editors and members of the profession we heartily wish him God-speed, and a happy and peaceful home at the South.

**BRITISH MEDICAL DEGREES FOR SALE.**—In the *JOURNAL* of September 22d we took occasion to refute the imputation contained in the *London Lancet* of August 6th, that degrees could be purchased in American universities, and in connection with our remarks we copied a letter from a former graduate of Harvard, which showed the falsity of the implication regarding our own Alma Mater. Were we disposed to be critical or to take unfair advantage of our respected cotemporary, we might pass unchallenged the correspondence which we give. We however quote it in full, in order to point out the dangers which the profession may suffer, small though they be, at the hands of unscrupulous men.

The following advertisement recently appeared in a copy of a secular newspaper:—

"FOR SALE.—A Physician's Diploma granted by the College of Surgeons, Dublin; a rare chance for an enterprising man. Address ———."

A friend, intent on investigating the matter, forwarded a letter to the address given—of course under a pseudonym—representing himself to be in need of a diploma and asking its price. To this he received the following answer:—

"———, Sept. 30th, 1870.

"DEAR SIR,—In reply to yours of yesterday I would reply that the diploma can be made of use to you in one way only, viz., by the substitution of your name for that of the person to whom it was granted, and who is now deceased and has never been in this country.

"There are two diplomas, one granted by the College of Surgeons, Dublin, the other by the University of Edinburgh, Scotland. Both are distinct and separate instruments, bearing the seals of the respective institutions who issued them; they are printed on parchment, that granted by the Edinburgh University being the more imposing document.

"I want \$100.00 for the latter, but might

take less for the other. Can grant you an interview if you desire it, and remain

"Yours respectfully,"

We feel it beneath the dignity of the position we hold as journalists to impugn the honesty of institutions which we can only name with respect; we should be recreant to duty did we strive to fabricate from the dishonesty of any person a baseless story concerning the Universities of Great Britain. The writer of the letter gives evidence in his own hand-writing of his lost sense of honor; the trick is too palpable to bear any cloak; the circumstance, however, serves to point a moral in our hands.

We trust our friends in Great Britain will give us credit for the honesty of our intentions in exposing a fraud on their universities, and that our venerable London cotemporary will be willing in the future to correct false impressions which may arise among its readers in reference to American universities.

**ANIMAL VACCINATION.** *Mr. Editor*,—For twelve years I have devoted "special attention to the selection, propagation and supply to the profession, of the best possible stocks of humanized vaccine virus." During that time I have been in correspondence with many thousand physicians in every part of the country, and have been made aware, in almost innumerable instances, of the desire that exists that a virus might be obtained, direct from the animal, without any human admixture or antecedent.

I felt naturally very desirous, on all accounts, to meet this widely expressed demand, and, with that view, all my hopes of discovering an original case of cowpox in this country having, in repeated instances, been doomed to disappointment, I despatched a special agent to Paris, in June last, with instructions to inform himself, thoroughly, of the details of animal vaccination as there practised since 1866, to obtain all necessary apparatus, authentic documents, and a supply of animal lymph in such forms, quantities, and from such a variety of subjects as should be likely to insure the successful inauguration of the method into America.

My agent was furnished with letters to several of the leading physicians of Paris, to the American Minister there, and to the Minister of the Imperial Government, whose department included the whole matter of



Government and public vaccination in France. Every possible facility was afforded by the late Imperial Government, and especially by all the eminent medical officials, to whom the immediate care and direction of all matters connected with vaccination were then intrusted.

The result of all these kind offices and of the persistent industry and patience of my agent was all that could have been hoped, and, considering the circumstances in which Paris was placed during the latter part of his stay, far more than might have been expected.

My agent returned on the 20th ultimo. He had sent me several supplies of lymph by mail, before that time, with which I had experimented on a small scale, and with a certain amount of success; but immediately upon his return, with a very large amount of virus, obtained, under his immediate observation, from a great number of different animals, I commenced an extensive series of vaccinations of heifers and infants. These labors have already resulted in the successful vaccination of many of both sorts of *vaccinifer* with, 1st, the original cowpox, discovered at Beaugency, in 1866, perfectly authenticated, and, since then, transmitted from heifer to heifer in unimpaired and even increased excellence; 2d, the cowpox obtained by inoculating a heifer from an original case of horsepox and perpetuated from one animal to another in the same manner as the cowpox of Beaugency.

I had determined not to offer these new sources of supply, however loudly commended in Europe, unless I should, by experiments made by myself, ascertain that they really deserved to be introduced and recommended, that, at least, they were not inferior to the excellent "stock" (of the National Vaccine Institution of London) which I have supplied for so many years.

In case that I had found the new lymph unworthy of commendation, it was my intention to have published an account of my experiments therewith, and to let it drop, no matter how great my disappointment and pecuniary loss might be.

I have, however, fully ascertained, already, that both sources of vaccine supply are perfectly reliable. My vaccinations of infants, made with the original lymph, are successful to a degree fully equal to what I had hoped, and much beyond my anticipations, in view of the well known difficulty in communicating original cowpox to the human subject. All the vaccinations, amounting to over twenty, that I have made

with lymph at one remove from the cow, have been successful; not a vesicle has failed to appear at each place of insertion. I have also successfully vaccinated several young heifers, and the second generation of cowpox, on the animal on this side of the Atlantic, is now in process of development.

Knowing the very general popular prejudice which exists against humanized lymph, and how widely the same prejudice has extended to the profession; knowing also how very great, and increasing an obstacle this prejudice, whether justly founded or not, presents to the extension and progress of the infinite blessing of vaccination, I have considered it nothing less than a duty to make the preceding statements without a day's unnecessary delay.

In a few days I shall have such arrangements completed as will enable me to invite all who may feel an interest in animal vaccination to see the disease in the heifer, to bring patients to be vaccinated therefrom, and to obtain, if it is desired, their supplies directly from the source. I also purpose, as soon as my observations shall be sufficiently numerous and complete, to offer to the profession through your columns a paper on the subject of animal vaccination, based on such personal experience, and on the numerous documents that I have received from Paris. My only object in the present communication is to notify the profession that two new and important "stocks" of non-humanized cowpox lymph have been introduced and established in America. In this way I answer a great many inquiries made by letters and verbally, and perhaps may teach others, interested in the subject, who have not, as yet, honored me with their correspondence.

HENRY A. MARTIN.

27 Dudley street, Roxbury.

UNIVERSITY LECTURES.—At the meeting of the Corporation of Harvard University held in this city, October 12th, the following gentlemen were appointed University Lecturers in the Medical School for the current academic year, viz.: John E. Tyler, M.D., on Mental Diseases; Henry W. Williams, M.D., and Hasket Derby, M.D., on Ophthalmology; Clarence J. Blake, M.D., on Otology; Frederic I. Knight, M.D., on Laryngoscopy; George Derby, M.D., on Hygiene; and Robert Amory, M.D., on the Physiological Action of Drugs on man and the lower animals.

**NEW YORK STATE INEBRIATE ASYLUM.**—The following announcement is respectfully submitted to the consideration of the medical profession, and to the public in general:

It is believed that the experience of the past five years has demonstrated not only the utility but the necessity of the institution known as the New York State Inebriate Asylum. We speak advisedly when we affirm that at no time have its prospects for usefulness been more promising, or has it been in so good a condition, so far as the treatment of patients is concerned, as it is now. We have sought to make it what it was originally intended to be, a reformatory christian home.

There are very many persons in our State and throughout the country, the victims of a terrible mania for drink, who need the salutary treatment which this Institution affords, and who, without such aid, must in all human probability perish. We, therefore, disclaiming every object except an earnest desire to aid in restoring to their friends and to society a class of men fallen indeed, but not beyond recovery, would earnestly commend this Institution as an efficient means for securing an end so important and inestimable.

We deem it proper to state that ample means are provided to meet the physical, intellectual and religious wants of the patients. The Asylum occupies a remarkably healthful and beautiful site. It is furnished with baths, and a great variety of amusements; with a good library and reading room, which is supplied with the leading daily newspapers and the American and British magazines.

The Asylum has been placed under the charge of Dr. Daniel G. Dodge, a man of superior administrative qualifications, and towards whom there is but one sentiment prevailing with the officers of the Institution and among the patients, that of profound respect for him as a Christian gentleman, and confidence in him as a skilful physician.

WILLARD PARKER, M.D.,

New York,

President Board Trustees.

Binghamton, N. Y., Oct. 1, 1870.

**THE PHOTOGRAPHIC REVIEW OF MEDICINE AND SURGERY**, a publication now for the first time offered to the profession, has for its object the presentation of the most interesting cases coming under notice. The Photographic Review will appear in numbers, every other month, each containing

four photographic plates, with appropriate notes and remarks. Subscription, \$6 00 per annum. J. B. Lippincott & Co., Publishers, Philadelphia.

From the Fourth Annual Report of Dr. A. M. Shew, Superintendent of the General Hospital for the Insane, of the State of Connecticut, we make the following extracts:—

"At the date of the last report there were remaining two hundred and nine (209) patients, of whom one hundred and seven (107) were males and one hundred and two (102) were females. There have been admitted during the twelve months to this date, one hundred and thirty-four (134) patients; seventy-eight (78) males and fifty-six (56) females. Of this whole number, three hundred and forty-three (343), forty-three (43) were discharged recovered, eighteen (18) were discharged much improved, twenty-seven (27) were discharged not improved, twenty-one (21) died and two were found not to be insane, leaving the number now in hospital two hundred and thirty-two (232), of whom one hundred and fourteen (114) are males and one hundred and eighteen (118) are females. The daily average during the year is 225.27.

\* \* \* \* \* "Experience shows that treatment in early stages of the disease is attended with success in a majority of cases, while only a small proportion are restored to health and reason when several months are allowed to elapse before the patient receives systematic hospital treatment. \* \* \* \* \* Chronic cases often require the most attention, and, when at large, are the most annoying to the public. This is especially true of cases of periodical insanity and epileptic mania. \* \* \* \*

"Twenty-one deaths occurred during the year. There were in April three (3), in May one (1), in June one (1), in July three (3), in August three (3), in October two (2), in November four (4), in February three (3), and in March one (1). Thus the number of deaths during the year equals 6½ per cent. of the whole number under treatment. The disproportion of deaths between the sexes is noticeable, as only three have occurred among the women, the average number of whom in the hospital exceeds that of the men.

"In the cases that have terminated fatally, we observe an undue proportion of deaths soon after admission. The excitement of removals, and the fatigue of journeyings, &c. &c., are often prejudicial to

insane patients. It is a matter of deepest importance that discrimination on the part of those who remove patients to the hospital be conscientiously, calmly and wisely exercised. In deciding when to send, the judgment of a physician should always be obtained by friends and officials. This precaution would often prolong the lives of those whom they seek to benefit. \* \* \*

"In this connection I ought, perhaps, to state a fact not sufficiently understood, that in the treatment of mental disorders little reliance is placed on the action of drugs. The prevailing favorable influence in the treatment of insane persons consists in removal from the influences previously surrounding them at home which may have been active in causing the disease. Attempts of friends at control tend only to increase the inherent sense of arbitrariness while in the accustomed rooms and home. A powerful maniac, who has been the terror of family and community, will ordinarily quietly submit to the rules of an institution, and be guided and influenced by a kind word from an intelligent attendant who is an entire stranger. The earlier in the disease that this change is made, the greater are the chances of speedy and permanent recovery. The very fact of being a stranger among others having each peculiar delusions and habits, awakens new trains of thought and feelings, which end in a kind of self-examination and self-control, with subsequent improvement. I have repeatedly been told by patients who had recovered, that their first consciousness of deviation from a supposed sane condition, was induced by comparisons of themselves with the insane companions in the wards. Apprehensions generally entertained by the inexperienced, that a mild case of derangement would be intensified by contact with a large number similarly affected, is not confirmed in experience. On the contrary, in well-regulated hospitals, where attention is given to the classification of patients, to regularity in eating, sleeping and amusements, beneficial changes are often soon recognized by the patients themselves, indicating that restoration to health has begun.

"In these progressive stages of convalescence, too much praise can hardly be awarded to competent attendants, who act the part of friends, directing and encouraging the feeble intellect by kind and gentle acts, even when at first coldly received and perhaps unappreciated for months. It is during this stage that patients need to have their minds diverted and occupied by

various amusements, or by light employments, chosen wisely to meet their characters."

**POISONING BY CARBOLIC ACID, IN A CASE OF ACUTE ECZEMA.** Reported by T. G. RODDICK, M.D., Assistant House Surgeon, Montreal General Hospital.—Thomas Hobbs, set. 80, was admitted into the Montreal General Hospital under care of Dr. Fraser, on the 18th April, 1870, suffering from Acute Eczema, intense in degree and affecting the whole cutaneous surface. The patient had been troubled with the disease for about five weeks previous to admission, and had been treated for scabies with the ordinary sulphur ointment. The arms, legs and trunk were literally covered with the disease, and it had invaded his scalp for a short distance behind. He was very feeble, and indeed had to be assisted in and out of bed.

For the first three or four days after admission, he was ordered ung. zinci. to be applied over the diseased surface, twice a day, and in the interim a tepid bath. This plan of treatment had no marked effect on the disease, so on the fifth day the dresser was instructed to apply on lint an ointment containing one part of carbolie acid to four parts of lard, over the arms and thighs, and to cover the whole with oil silk. This application was faithfully made about four o'clock in the afternoon, and at half-past five the nurse reported that the old man was dying. When seen, as he was almost instantly, he was found to be in profound coma, with the pupils firmly contracted; breathing stertorous; pulse weak, quick, and flickering; whole surface of the body livid; extremities cold; large quantity of mucus in bronchial tubes; inability to swallow; profound insensibility. The patients in the same ward had seen him half an hour before, crawl out of bed, and, after sitting on the chair a few moments, fall to the floor apparently in a faint. He was lifted to his bed and taken no further notice of till the nurse gave the alarm.

It was thought that the extensive application of carbolie acid would account for his condition. So accordingly the dressings were instantly thrown off and the part washed thoroughly with soap and water. At the same time sinapisms were applied to his chest and the calves of his legs, and a blister to the nape of his neck; brandy was given as freely as it was possible, and a turpentine and castor oil enema. For the first hour his condition improved rapidly, but as soon as the stimulating effect of the

brandy and sinapisms had passed off he seemed to lapse into his former condition. The symptoms varied in intensity from time to time, until about ten o'clock, when he vomited freely, and from that time rapidly regained his consciousness and fell almost immediately into a natural sleep.

The odor of carbolic acid in the vomited matters was distinctly perceptible, but unfortunately none of the secretions were tested.

When fully recovered the patient said that a very few minutes after the application of the ointment he experienced a peculiar burning prickling sensation over the whole body, and that although he had the greatest desire to micturate he could not pass a single drop of urine. He had no recollection of getting out of bed, and that he was in a faint when the patients found him on the floor there can be little doubt.

As to the disease it improved with marvellous rapidity, and although nothing was afterwards applied but cod liver oil, he was pronounced cured on the sixteenth day after admission, and has had no recurrence of the disease since.

Dr. Fraser, in a few remarks to the students, stated that the case is instructive in two respects: 1st. As regards the danger incurred by the extensive application of carbolic acid to the skin, when the cuticle is removed, as it always is in eczema, leaving the cutaneous absorbents and capillaries exposed, through which it is readily absorbed and produces its known depressing effects upon the circulation through the nervous system. These effects have also been occasionally observed to follow its injection into large abscesses. 2d. As regards its efficiency as a therapeutic remedy in eczema, in which disease, however, judging from its effects in the present case, it should be employed with caution, or to portions only of the diseased surface at a time, and its effects closely watched.

The action of the acid on the urinary organs which has been observed by others was also pointed out, and so was the treatment which succeeded so well in combating its dangerous effects in the present instance.—*Canada Medical Journal*.

**A CASE OF RUPTURE OF THE UTERUS.**  
By THOS. F. MOSES, M.D., of Glendale, Ohio.—On the 27th of February I was called to attend in labor Mary P. V., a German woman of small, almost dwarfish stature. An examination disclosed a breech presentation, and as the labor was proceed-

ing normally, and was likely to be tedious, I went away to return after a few hours. On my arrival in the evening, the pains were very frequent and violent. The os was fully dilated, and the breech firmly impacted in the pelvis. The woman showed no signs of exhaustion, and the presenting part continued to advance slowly, so interference was not decided necessary. I was particularly struck with the violence of the pains. All at once, during a pain, the woman uttered a sharp, terrible cry, and complained of intense pain over the lower part of the abdomen. The presenting part immediately receded, and it was evident that rupture of the uterus had occurred. A state of approaching syncope supervening, I did not immediately deliver the child, and the friends of the patient sent for a priest, thinking her dying, which opinion I shared. After receiving the last offices at the hands of the priest she revived a little, and requested me to relieve her, if possible, from her agony. I stated to her the small probability of her recovering, and proceeded at once to deliver, passing my hand through the rent in the anterior wall of the womb, and finding the feet in the abdominal cavity I brought them down separately, and soon completed the delivery. Only the lower part of the body of the child had passed into the abdominal cavity. The rent extended from the fundus quite through the os, and communicated with the bladder. After accomplishing the delivery, I introduced my hand again into the womb to make sure that no loop of intestine was entangled in it, and at the same time removed a clot.

The child, which was a finely formed boy of more than 12 pounds' weight, was of course dead. My only idea now was to make the poor woman as comfortable as possible during the remaining hours of her life, and I administered at once hydrate of chloral in solution, 30 grains, leaving a weaker solution to be given at intervals, in order that its influence might be kept up. Next day I found the abdomen enormously distended and tympanitic; pulse 130, and the face pinched and expressive of great exhaustion. Continued the chloral, and ordered turpentine stupes over the abdomen. Patient dozed most of the time during the day, but was easily roused. The following morning the abdomen was still distended, but less than on the previous day, and the pulse had fallen to 80!

Twenty-four hours later there was a still further improvement, and the abdomen was softer and less painful under pressure. The

next day, 72 hours after the delivery of the child, there was such a marked improvement that I considered the patient out of danger, and from that time on she continued to improve so that in three weeks' time she was about her usual avocations, suffering only from debility and the constant dribbling of urine from the fistulous opening in the bladder.

The patient was advised to go to the Cincinnati Hospital and submit to an operation; but, fearing such a procedure, she applied to another practitioner for relief, and was treated for a long time for incontinence of urine. Finding no benefit, as a matter of course, she has finally followed my advice, and is now (July 15) an inmate of St. Mary's Hospital, Cincinnati. The result of the case I have not yet learned.

Two things are worthy of note in this case: recovery after such extensive laceration of the uterus, and the seemingly beneficial effect of the chloral hydrate in subduing extensive peritonitis.—*Medical and Surgical Reporter.*

**HYDRATE OF BROMAL.**—There is a valuable article by Dr. E. Steinauer, of Berlin, in the last volume of "Virchow's Archiv," on the action of the hydrate of bromal on animals and on man. The experiments were made in the Berlin Pathological Institute, and were under the immediate observation of Liebreich himself. The hydrate of bromal, according to the observations detailed, when administered to animals, undergoes a similar change to that undergone by chloral, being converted by the alkalies of the blood into bromoform. But this change goes on slowly, for at the end of an hour and a half there was found in the blood in addition to bromoform still some undecomposed bromal. The substance is further oxidized and evacuated in the urine as bromide. The symptoms produced by bromal on animals (frogs, rabbits, guinea-pigs) were first a stage of restlessness, followed by imperfect sleep and anaesthesia, and finally dyspnoea and death with or without convulsions. After large doses, both in frogs and rabbits, the heart was found after death relaxed and distended—whereas, after smaller doses, it was contracted. In the former case there is probably direct paralysis of the heart by the bromoform, such as occurs after large doses of chloroform. The preliminary stage of restlessness, which has no equivalent after administration of chloral, is ascribed to the action of the bromal

aldehyde itself, the decomposition occurring, as stated above, more slowly than is the case with chloral. The author observed a stage of restlessness, after a hypnotic dose of chloral, in a patient suffering under gout, and he ascribed this to the acid state of the blood preventing the usual decomposition into chloroform. With this view he administered alkalies to the patient, and after a few days the same dose of chloral produced the usual hypnotic effect. Proceeding from this, he applied the same principle in his experiments with bromal. Having injected carbonate of soda subcutaneously in rabbits, he then injected the hydrate of bromal, and found that the stage of restlessness was entirely absent. The author has administered bromal to man in only a few cases. He has found good effects from it in epilepsy, and in soothing the pains of tabes dorsalis. The method of administration which he has ultimately employed is, first, in the morning and at mid-day a powder containing about 14 grains sodæ bicarb.; then in the evening two to four pills, each containing each from  $\frac{1}{2}$  grain to  $1\frac{1}{2}$  grain of bromal.—*Dublin Medical Press and Circular.*

**DYSMENORRHOEA INDUCED BY A PESSARY.**—Dr. Robert P. Harris related the history of a case which he had received by letter from a friend. A young girl who had suffered from profuse menorrhagia, unaccompanied by pain or other evidence of uterine disease, had, for some uterine malposition, a pessary introduced. The succeeding menstrual periods became exceedingly painful—the pain and disturbance subsiding, however, upon the removal of the instrument. The dysmenorrhœa induced was of the mechanical expulsive character.

Dr. Harris believed that the symptoms arose from the posterior bar of the instrument (a Hodge pessary) pressing upon the os uteri, thus occluding the calibre of the canal.

Dr. G. Pepper had seen much the same train of symptoms induced as well by the introduction as the withdrawal of pessaries, and in certain cases was inclined to attribute the suffering experienced to the altered position and circulation of the uterus, and could scarcely believe that an instrument exercising sufficient pressure to close the cervical canal or os uteri externum could be worn in the intermenstrual periods without any evidence of disturbance.—*American Journal of Obstetrics.*



## Medical Miscellany.

DR. D. H. HAYDEN has been appointed one of the Physicians to Out-patients by the Trustees of the Massachusetts General Hospital.

**FISKE FUND PRIZES.**—The Trustees of the Fiske Fund offer the following prizes for the year 1871:—

First. Ununited Fractures; the conditions under which they occur and the most successful method of treatment.

Second. Hydrate of Chloral; its physiological effects and therapeutical uses.

For the best dissertation on each or either of these subjects the Trustees will pay the sum of one hundred dollars. Essays must be sent to the Secretary of the Fiske Fund Trustees, Dr. S. A. Arnold, Providence, R. I., on or before May 1st, 1871, accompanied by a sealed packet containing the author's name, with corresponding motto or device.

**DEFECT OF EPIGLOTTIS.**—Our attention is called to the fact that a case of defect of the epiglottis, additional to those copied from *Virchow's Arch.*, may be found in the Catalogue of the Medical Improvement Society of this city (p. 286). The epiglottis is entirely wanting, except for three little membranous shreds.

**NEW METHOD OF ESTIMATION OF GRAPE SUGAR.** M. KNAPP.—This method is based upon the fact that an alkaline solution of cyanide of mercury is completely reduced to the metallic state by grape sugar. The method is executed as follows:—10 grms. of pure and dry bicyanide of mercury are dissolved in pure distilled water; to this solution are added 100 c. c. of caustic soda solution (sp. gr. 1.145); and, next, as much distilled water is added as will be required to make a bulk of 1000 c. c. A series of experiments made by the author brought to light the fact that 400 milligrams. of cyanide of mercury are, when in alkaline and boiling solution, completely reduced to metal by 100 milligrams. of pure grape sugar. The titration is done as in Fehling's method—40 c. c. of the alkaline cyanide solution are boiled in a porcelain basin; and the sugar solution (not stronger than about half a per cent.) is added until all the mercury is precipitated. In order to test the course of the operation, a single small drop of the fluid is put upon a piece of Swedish filtering paper stretched over the mouth of a small beaker-glass, while the bottom of that glass is covered with rather strong sulphide of ammonium. As long as any cyanide remains undecomposed, a brownish spot will appear. The author states that with a little practice, even 1-10th c. c. of the above dilute sugar solution can be readily estimated.—*Am. Chemist.*

**THE SIAMESE TWINS.**—This renowned pair—called Chang and Eng—who have recently returned from the Old World in the steamer Palmyra, are in a sad plight. One has had an attack of hemiplegia. The other seems to be perfectly well. The question is suggested—Should the paralytic die, what would be the fate of the

other, since science has determined that they cannot safely be separated by a surgical operation? They have left this city for their farm in North Carolina.—*N. Y. Medical Record.*

**TO CORRESPONDENTS.**—Communications accepted:—Case of Traumatic Tetanus treated by the Calabar Bean.—Minnesota as a Resort in Pulmonary Affections.—Hon. Appleton Howe, M.D., an Obituary.

**PAMPHLETS RECEIVED.**—Transactions of the Medical Society of the State of New Jersey, 1870. Pp. 212.—Medical Progress. An Oration on the forty-seventh Anniversary of the Medical Society of the County of Kings, N. Y. By A. N. Bell, M.D., Physician to Brooklyn City Hospital, &c. &c. Pp. 33.—Transactions of the twenty-fifth Annual Meeting of the Ohio State Medical Society, held at Cleveland, June 14-16, 1870.—Physiological Action of Nitrous Oxide, as shown by Experiments on Man and Lower Animals. By Robert Amory, M.D., Longwood, Brookline, Mass. Boston: James Campbell.

**MARRIED.**—In this city, 13th Inst., Dr. Edward A. Whiston to Miss Emily F. Call, of Charlestown.—In Brandon, Vt., Dr. Frank W. Page to Amelia A., daughter of Dr. Olin G. Dyer, all of Brandon.

**DIED.**—In South Weymouth, Oct. 10th, Hon. Appleton Howe, M.D., aged 78. Obituary in a future number.—In Provincetown, Ms., Sept. 24th, Frederick Howard, M.D., of Randolph, aged 60.

### Deaths in sixteen Cities and Towns of Massachusetts for the week ending Oct. 15, 1870.

Cities and towns.	Total.	Prevalent Diseases.		
		Consumption.	Cholera Infantum.	Typhoid Fever.
Boston . . .	122	13	7	5
Charlestown 15		2	3	2
Worcester . 23		2	3	2
Lowell . . . 15		0	1	1
Milford . . . 7		2	2	0
Chelsea . . . 4		0	0	1
Cambridge . 23		4	6	3
Salem . . . 9		2	0	1
Lawrence . 5		1	1	0
Springfield . 2		1	0	1
Lynn . . . 8		1	0	3
Gloucester . 5		0	1	1
Fitchburg . 3		0	0	1
Taunton . . 10		3	0	0
Newburyport 10		5	1	1
Somerville . 4		1	0	1
Fall River . 9		2	2	0
Haverhill . . 1		1	0	0
	275	40	27	23

Boston reports three deaths from congestive fever. From all the above-named places there are reported fifteen deaths from pneumonia (ten of which were in Boston), eleven from dysentery and diarrhoea, and eleven from croup and diphtheria.

GEORGE DEERY, M.D.,  
Secretary of State Board of Health.

**DEATHS IN BOSTON for the week ending Saturday, Oct. 15th, 122.** Males, 63; females, 59. Abscess, 2; accident, 5; apoplexy, 4; inflammation of the bowels, 1; bronchitis, 3; congestion of the brain, 1; disease of the brain, 2; cancerum oris, 1; cerebro-spinal meningitis, 1; cholera infantum, 7; consumption, 13; convulsions, 6; croup, 3; cyanosis, 3; debility, 2; diarrhoea, 3; dropsy, 1; dysentery, 4; diphtheria, 2; epilepsy, 1; erysipelas, 1; congestive fever, 3; scarlet fever, 1; typhoid fever, 5; diabetes mellitus, 1; gastritis, 1; disease of the heart, 1; hæmorrhage, 2; homicide, 1; intemperance, 1; disease of the kidneys, 2; disease of the liver, 2; congestion of the lungs, 2; inflammation of the lungs, 3; marasmus, 5; old age, 4; pleurisy, 3; premature birth, 2; syphilis, 1; tumor, 1; ulcers of intestines, 1; unknown, 8; whooping cough, 1.

Under 5 years of age, 45;—between 5 and 20 years, 7;—between 20 and 40 years, 34;—between 40 and 60 years, 10;—above 60 years (one aged 164), 17. Born in the United States, 62;—Ireland, 28;—other places, 12.